Claim Rejections – 35 USC § 112

In response to the rejections of claims 10, 11 and 13, these have been reworded and replaced in their entirety as follows:

10.   The method according to claim 4, wherein said status variables ensure the complete generality of the algorithm and provide information to client applications that can be applied to solve a class of problems where engineering drawings, maps or other types of diagrams are composed automatically by computer software applications such as, but not limited to, engineering design algorithms and a database of spatial relationships.

11.   The method according to claim 2, wherein areas of available white space, adequate to position new graphical objects, can be efficiently identified with low level computer instructions (Logical AND). In addition, areas occupied by previously positioned graphical objects are efficiently tracked with low-level computer instructions (logical OR). By employing such logical operations this method makes efficient use of computer resources, as is well known to those skilled in the art.

13.   The method according to claim 1, wherein the method provides performance levels that are linear and proportional to the total number of graphics elements in the completed drawing. Therefore the method is scalable.

Claim Rejections – 35 USC § 102

Claims 1-8 and 10-16 should not be rejected since our invention has not been patented or described in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States. Our comments and statements for allowance relative to each of the inventions listed in the *Notice of Reference Cited* are as follows:

The invention by Fall et al (5,991,515) provides a method and apparatus for compressing and decompressing display data including methods for predicting compression results and correcting compression ratios prior to the compression of object data. The compressed objects are then decompressed using a related decompression mechanism and send directly to a driver in the output display device for printing or display. This invention is not pertinent to our invention and does not anticipate our invention or any of our claims. Therefore, none of our claims should be rejected on the basis of this reference.

The invention by Tyler et al (5,638,498) provides a method and apparatus for reducing storage requirements for display data on a computer system. Data objects to be displayed are organized into display lists and each data object includes an object type, such as text, graphic, and image. The data objects are rasterized into an uncompressed band buffer and divided into non-intersecting bitmap regions each identified with one or more object types. Each non-empty region is assigned a compression algorithm dependent upon the type of the region and specified compression constraints. The regions are combined with each other into larger regions if appropriate, and each region is compressed using its assigned compression algorithm into a compressed band buffer, thus reducing the required storage space for the data objects. The compressed data is decompressed in scan line order with a selected decompression algorithm corresponding to the assigned compression algorithms to produce uncompressed output data. The uncompressed output data is supplied to an output device for display. This invention is not pertinent to our invention and does not anticipate our invention or any of our claims. Therefore, none of our claims should be rejected on the basis of this reference.

The invention by Hu et al (6,542,635) provides a method for document type comparison and classification using document image layout. Document type comparison and classification using layout classification is accomplished by first segmenting a document page into blocks of text and white space. A grid of rows and columns, forming bins, is created on the page to intersect the blocks. Layout information is identified using a unique fixed length interval vector, to represent each row on the segmented document. By computing the Manhattan distance between interval vectors of all rows of two document pages and performing a warping function to determine the row to row correspondence, two documents may be compared by their layout. Furthermore, interval vectors may be grouped into N clusters with a cluster center, defined as the median of the interval vectors of the cluster, replacing each interval vector in its cluster. Using Hidden Markov Models, documents can be compared to document type models comprising rows represented by cluster centers and identified as belonging to one or more document types. In addition, documents stored in a database may be retrieved, deleted, or otherwise managed by type, using their corresponding vector sets without requiring expensive OCR of the document. Furthermore, based on the classification, it is a simple matter to locate which blocks of data contain certain information. Where only that information is desired, it is not necessary to perform OCR on the entire document. Rather OCR may be limited to those blocks where the particular information is expected based on the document type. This invention is not pertinent to our invention and does not anticipate our invention or any of our claims. Therefore, none of our claims should be rejected on the basis of this reference.

The invention by Forcier, Mitchell D. (5,953,735) provides a script character processing method and system with bit-mapped document editing. A pen-based processor needs to be able to be usable to input and edit script like a text-based computer but retain a resemblance to the user of a pad and pencil. The disclosed system and method implement input, editing and other manipulation of glyphs including handwritten script, ASCII test, bit-mapped images and drawings in a common document, using a compatible internal representation of the data and a simple, consistent set of user control functions.

These functions are invoked using an intuitive and interactive set of user gestures which do not distract the user from the task of inputting or editing the document. A two-step gesture method avoids confusion between strokes and command gestures and allows use of similar gestures for different functions within the same and different contexts. The system infers from customary user writing conventions that certain relationships of data are to be preserved including delineation of words and paragraphs, and maintains the relationships subject to user override, during editing. The display document is formatted to contain lined or editable line space, including insertion of a moving space into pre-existing document text and word wrapping. Adjoining drawing areas are unaffected by editing of text data. This invention is not pertinent to our invention and does not anticipate our invention or any of our claims. Therefore, none of our claims should be rejected on the basis of this reference.

The invention by Medina, Mitchell (US-2004/0240735) is dated December 2004 and is pre-dated by our invention which was filed October 2003. As such, this invention cannot be considered to anticipate our invention or any of our claims. Therefore, none of our claims should be rejected on the basis of this reference.

The invention by Weil et al (US-2004/0205623) is dated October 2004 and is pre-dated by our invention which was filed October 2003. As such, this invention cannot be considered to anticipate our invention or any of our claims. Therefore, none of our claims should be rejected on the basis of this reference.

The invention by Iwema et al (US-2003/0214539) is dated November 2003 and is pre-dated by our invention which was filed October 2003. As such, this invention cannot be considered to anticipate our invention or any of our claims. Therefore, none of our claims should be rejected on the basis of this reference.
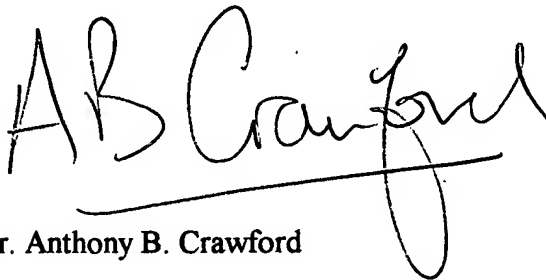
Allowable Subject Matter

Claim 9 was objected to as being dependent upon a rejected base claim. However, subject to acceptance of our comments and statements for allowance of our claims 1-8 and 10-16, Claim 9, which is recognized by the examiner as *'uniquely distinct'*, should be allowed in the context of our overall claims. As a result, we do not anticipate any need to rewrite Claim 9 in an independent form.

Conclusion

As noted by our comments and statements for allowance, we consider our invention to be uniquely distinct and trust that each of your objections and rejections have been addressed to your satisfaction. If you need to discuss any issues, my contact details are as follows:

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Thank you.

Dr. Anthony B. Crawford